Appl. No: 10/014,763
Amdt. Dated: 02/17/2005
Off. Act. Dated: 11/17/2004

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (original): A method comprising:
determining an overrun in the encoding of an input bitstream;
determining the severity of the overrun; and
encoding a current frame using at least one catch-up mode to process the overrun.

2. (original): The method of claim 1 wherein encoding occurs without skipping a frame of the input bitstream.

3. (original): The method of claim 1 further comprising:
determining an anticipated finishing time for the encoding.

4. (original): The method of claim 3 wherein determining the severity of the overrun is based on upon the anticipated finishing time.

5. (original): The method of claim 1 wherein determining the overrun occurs before encoding a next frame.

6. (original): The method of claim 1 wherein a subsequent overrun does not occur during the catch-up processing.

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7. (original): The method of claim 1 wherein a plurality of catch-up modes are available to speed-up encoding of the bitstream.

8. (original): The method of claim 1 wherein the catch-up mode contains a plurality of rate control processes.

9. (original): A system comprising:

a catch-up controller to determine an overrun in the encoding of an input bitstream and to determine the severity of the overrun; and

an encoder to encode a current frame using at least one catch-up mode to process the overrun.

10. (original): The system of claim 9 wherein the encoder encodes the input bitstream without skipping a frame of the input bitstream.

11. (original): The system of claim 9 wherein the encoder further determines an anticipated finishing time for the encoding.

12. (original): The system of claim 11 wherein the encoder determines the severity of the overrun based upon the anticipated finishing time.

13. (original): The system of claim 9 wherein the encoder determines the overrun before encoding a next frame.

14. (original): The system of claim 9 wherein a subsequent overrun does not occur during the catch-up processing.



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15. (original) The system of claim 9 wherein a plurality of catch-up modes are available to speed-up encoding of the bitstream.

16. (original): The system of claim 9 wherein the catch-up mode contains a plurality of rate control processes.

17. (currently amended): The system of claim 16 wherein each of the plurality of rate ~~contorl~~ control processes avoids quality loss of the bitstream.

18. (original): The system of claim 9 wherein the encoder uses a plurality of catch-up modes to produce short catch-up times and good catch-up quality.

19. (original): A system comprising:

means for determining an overrun;

means for determining the severity of the overrun; and

means for encoding a current frame using at least one catch-up modes to process the overrun.

20. (original): A computer readable medium comprising instructions, which when executed on a processor, perform a method for timeshifting the encoding and decoding of a bitstream, the system comprising:

means for determining an overrun;

means for determining the severity of the overrun; and

means for encoding a current frame using at least one catch-up modes to process the overrun.



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